U.S. DEPARTMENT OF ENERGY

Office of ENERGY EFFICIENCY & RENEWABLE ENERGY

Leveraging Bond Financing to Support Energy Efficiency and Renewable Energy Goals:

A Resource Summary for State and Local Governments

November 19, 2020

Housekeeping

- **The recorded webinar will be available on the State and Local Solution Center.**
  - See: https://www.energy.gov/eere/slsc/state-and-local-solution-center.

- **Attendees are in listen-only mode.**
  - Attendees are encouraged to type questions and feedback in the webinar chat throughout the webinar. We'll respond to questions in the chat or during the question and answer segment of the webinar.

- ***Disclaimer:*** **The information in this webinar and Resource Summary should not be construed or relied upon as legal, tax, or accounting advice.**

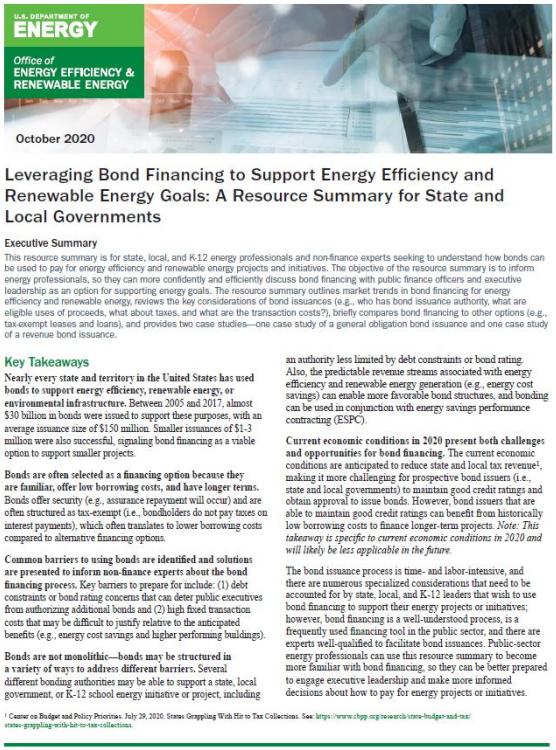
Overview

- *<u>New Resource</u>: Leveraging Bond Financing to Support Energy Efficiency and Renewable Energy Goals: A Resource Summary for State and Local Governments*

  See: https://www.energy.gov/eere/slsc/downloads/leveraging-bond-financing-support-energy-efficiency-and-renewable-energy-goals

- **An accessible introduction to bonds for public-sector energy professionals <u>without financing expertise</u>.**

- **Provides information on:**
  - *Authority to issue bonds*
  - *Ratings, security, and transaction costs*
  - *Stakeholders involved and issuance timeline*
  - *General obligation vs. revenue bonds*
  - *Special considerations for energy projects*



U.S. DEPARTMENT OF ENERGY
Office of ENERGY EFFICIENCY & RENEWABLE ENERGY

October 2020

Leveraging Bond Financing to Support Energy Efficiency and Renewable Energy Goals: A Resource Summary for State and Local Governments

Executive Summary

This resource summary is for state, local, and K-12 energy professionals and non-finance experts seeking to understand how bonds can be used to pay for energy efficiency and renewable energy projects and initiatives. The objective of the resource summary is to inform energy professionals, so they can more confidently and efficiently discuss bond financing with public finance officers and executive leadership as an option for supporting energy goals. The resource summary outlines market trends in bond financing for energy efficiency and renewable energy, reviews the key considerations of bond issuances (e.g., who has bond issuance authority, what are eligible uses of proceeds, what about taxes, and what are the transaction costs?), briefly compares bond financing to other options (e.g., tax-exempt leases and loans), and provides two case studies—one case study of a general obligation bond issuance and one case study of a revenue bond issuance.

Key Takeaways

Nearly every state and territory in the United States has used bonds to support energy efficiency, renewable energy, or environmental infrastructure. Between 2005 and 2017, almost $30 billion in bonds were issued to support these purposes, with an average issuance size of $150 million. Smaller issuances of $1-3 million were also successful, signaling bond financing as a viable option to support smaller projects.

Bonds are often selected as a financing option because they are familiar, offer low borrowing costs, and have longer terms. Bonds offer security (e.g., assurance repayment will occur) and are often structured as tax-exempt (i.e., bondholders do not pay taxes on interest payments), which often translates to lower borrowing costs compared to alternative financing options.

Common barriers to using bonds are identified and solutions are presented to inform non-finance experts about the bond financing process. Key barriers to prepare for include: (1) debt constraints or bond rating concerns that can deter public executives from authorizing additional bonds and (2) high fixed transaction costs that may be difficult to justify relative to the anticipated benefits (e.g., energy cost savings and higher performing buildings).

Bonds are not monolithic—bonds may be structured in a variety of ways to address different barriers. Several different bonding authorities may be able to support a state, local government, or K-12 school energy initiative or project, including an authority less limited by debt constraints or bond rating. Also, the predictable revenue streams associated with energy efficiency and renewable energy generation (e.g., energy cost savings) can enable more favorable bond structures, and bonding can be used in conjunction with energy savings performance contracting (ESPC).

Current economic conditions in 2020 present both challenges and opportunities for bond financing. The current economic conditions are anticipated to reduce state and local tax revenue[1], making it more challenging for prospective bond issuers (i.e., state and local governments) to maintain good credit ratings and obtain approval to issue bonds. However, bond issuers that are able to maintain good credit ratings can benefit from historically low borrowing costs to finance longer-term projects. *Note: This takeaway is specific to current economic conditions in 2020 and will likely be less applicable in the future.*

The bond issuance process is time- and labor-intensive, and there are numerous specialized considerations that need to be accounted for by state, local, and K-12 leaders that wish to use bond financing to support their energy projects or initiatives; however, bond financing is a well-understood process, is a frequently used financing tool in the public sector, and there are experts well-qualified to facilitate bond issuances. Public-sector energy professionals can use this resource summary to become more familiar with bond financing, so they can be better prepared to engage executive leadership and make more informed decisions about how to pay for energy projects or initiatives.

[1] Center on Budget and Policy Priorities. July 29, 2020. States Grappling With Hit to Tax Collections. See https://www.cbpp.org/research/state-budget-and-tax/states-grappling-with-hit-to-tax-collections.

Polls

Agenda

- **Overview of the Resource Summary**
- **Frequently Asked Questions**
  - Elizabeth Bellis Wolfe, Lead Author
- **Audience Q&A**

5 Key Takeaways

1. Nearly every state and territory in the U.S. has used bonds to support energy efficiency, renewable energy, or environmental infrastructure.

2. Bonds are often selected as a financing option because they are familiar and offer special benefits.

3. Common barriers to bond issuances include debt constraints and high, fixed transaction costs.

4. These barriers can be addressed or mitigated through strategic approaches to bond issuance.

5. Current economic conditions present both challenges and opportunities for bond financing.

Market Size and Opportunity

Municipal Bonds By the Numbers

- 1812: The first recorded municipal bond in the U.S.
- $30 billion: Amount of municipal bonds issued between 2005-2017 for energy efficiency, renewable energy, and environmental infrastructure.
- $150 million: Average bond issuance amount.
- 60/40: Share of outstanding municipal debt attributable to local governments (60%) and state governments (40%) as of 2012.

Key Features – Part 1

- **Authority to Issue**
  - **Qualified issuers** (states, territories, local governments, and any political subdivision with taxing power)
  - **Constituted authorities** (formed under state law to issue bonds, but lack sovereign power)
  - **Conduit entities** (entities formed under state nonprofit corporation law, e.g., 63-20 issuers)
- **Use of Proceeds**
  - Typically used to finance improvements to, or construction of, government facilities
  - Some eligible private purposes may use proceeds
- **Favorable Tax Treatment and Market Environment**

Key Features – Part 2

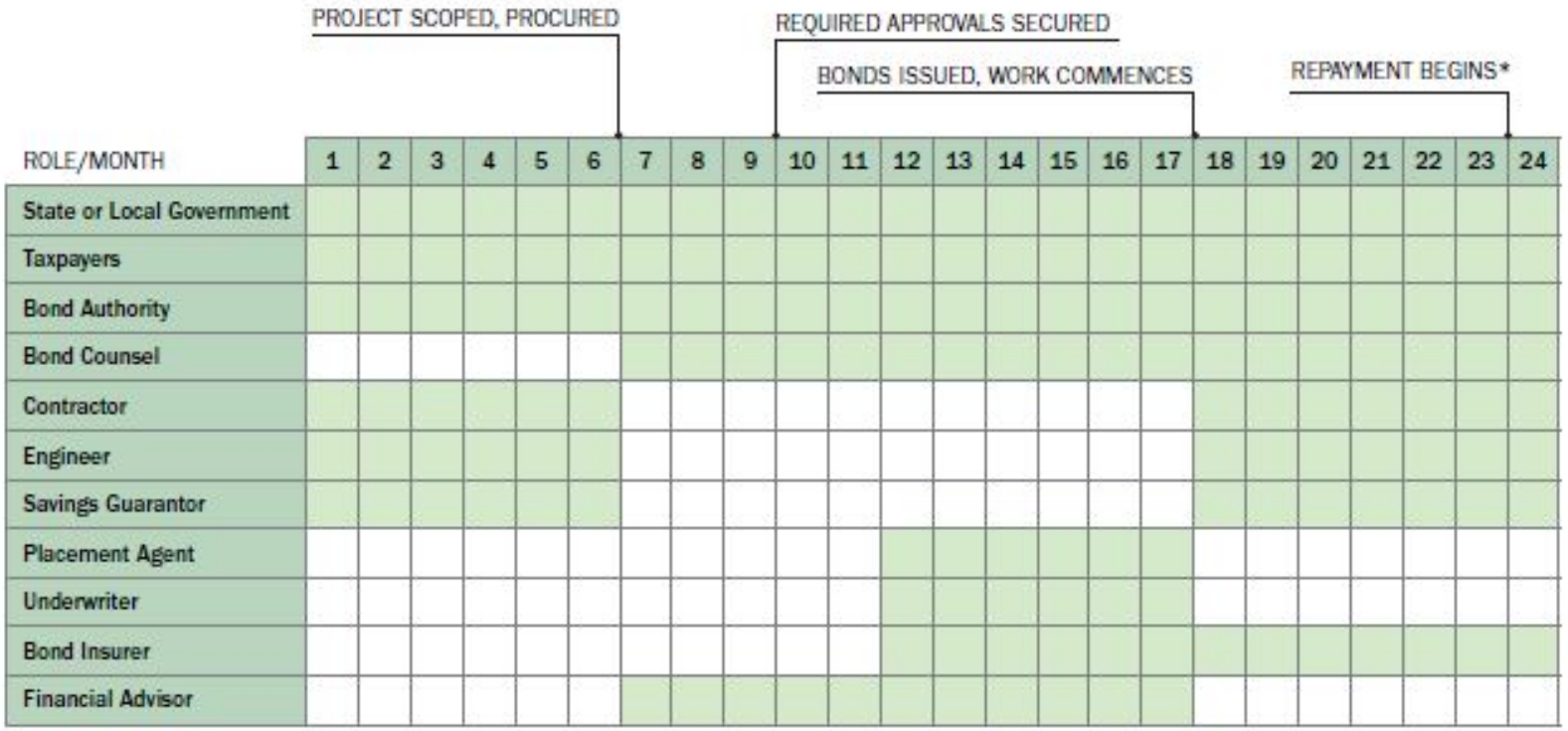
- **Security**
  - **General Obligation (GO) Bonds** (secured by the full faith and credit of the issuer, supported by ability to levy taxes).
  - **Revenue Bonds** (secured by revenues from an activity, e.g., energy savings from an energy performance guarantee).
- **Ratings**
  - A **signal of creditworthiness** to prospective bond investors; highly rated bonds typically pay lower interest rates.
  - **GO bonds** are rated based on issuer's financial position, demographics, etc.
  - **Revenue bonds** are primarily assessed on project-specific details.
- **Transaction Costs**
  - Includes underwriting, bond counsel, and financial advisor fees.
  - Ranges from **1% to 3%** of overall bond issuance cost.

The Municipal Bond Team

Roles	Responsibilities
State or Local Government	Identify financing need; pass resolution approving issuance (if required); procure needed services (contractor, engineer, bond counsel, municipal advisor, etc.).
Taxpayers	Vote whether to approve issuance (if required); pay taxes that support government's ability to issue (and pay interest on) bonds (pertains only to GO bonds).
Ultimate Obligor	Repay principal and interest on the bonds. *Note:* The ultimate obligor may be the bond issuer or the conduit beneficiary.
Bond Authority	Facilitate issuance; aggregate bonds for pooled issuances; provide technical assistance.
Bond Counsel	Advise on legal and tax issues related to issuance; provide opinion as to interest tax exemption.
Contractor	Complete the financed construction or improvements.
Engineer	Assist in planning work to be financed and overseeing contractor's progress; provide opinion as to satisfactory completion; may certify energy savings/guarantee, if applicable.
Savings Guarantor	Pay the guarantee beneficiary if actual savings are less than guaranteed.
Energy Savings Guarantee Provider	Make payments in the event that some or all of a specified level of savings is not achieved (energy performance guarantee). Note: This is only if the bond is being used to finance improvements that are expected to reduce energy.
Municipal Advisor (SEC-Registered Financial Advisor)	Advise the issuer as to the various options, structures, and partners; assist in reviewing documents, negotiating terms, and making decisions.

Note: Not all roles may be used or desired in a bond issuance. See the Resource Summary for a complete list of roles and responsibilities

Typical Bond Timeline



ROLE/MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
State or Local Government																								
Taxpayers																								
Bond Authority																								
Bond Counsel																								
Contractor																								
Engineer																								
Savings Guarantor																								
Placement Agent																								
Underwriter																								
Bond Insurer																								
Financial Advisor																								

*Assumes a typical semi-annual bond repayment schedule. *Cells filled in light green indicate an active role for actor during that period.*

Comparing Financing Options

	General Obligation (GO) Bond	Revenue Bond	Loans	Tax-Exempt Leasing[24] (63-20 or COP)[25]	Paying with Cash-on-Hand
Treated as Governmental Debt	Yes	Yes, frequently if issued by government directly[26]	Yes	Depends on state and local law and interpretation under accounting standards[27]	No
Risk of Increased Taxes in Event of Project Default	Yes	No	No	No	No
Typical Project Size ($)	Medium to Large ($2M+)	Medium to Large ($2M+)	All	Small to Medium (up to $2M)	Typically Small; limited by amount of cash on hand and competing needs for its utilization
Transaction Costs	Low to Medium (1%-3% depending on project size)	Medium to High (2%-4% depending on project size)	Low (1% depending on project size)	Medium to High (2%-4% depending on project size)	Lowest (<1% depending on project size)
Close Time	Longest (several months)	Long (months)	Short to Medium (days to weeks)	Short to Medium (days to weeks, assuming preexisting issuer)	Shortest (days)
Maximum Term/ Tenor	Longest (30+ years)	Long (20-30 years)	Short to Medium (20 years or less)	Long (20-30 years)	N/A
Complexity	Low	Medium	Lower	Medium	Lowest

Note: See the Resource Summary for more details and footnotes.

Case Study

Case Study: Vermont Municipal Bond Bank, General Obligation Bonds

Issuer: Vermont Municipal Bond Bank, an authority of Vermont

Purpose of Bond Issuance Proceeds: Used to complete efficiency upgrades on K-12 school district facilities and develop a new net zero emissions police and fire facility for a town.

Outcomes:

(1) Bennington School District, as part of an Energy Savings Performance Contracting (ESPC) project, invested $4.5 million in higher efficiency boilers, heating control systems, water heating, energy recovery ventilators, windows, insulation, and LED lighting; and

(2) Norwich, Vermont invested $1.4 million to develop a net zero emissions fire and police facility that did not rely on natural gas, fuel oil, or propane and incorporated solar electricity.

Frequently Asked Questions

Elizabeth Bellis Wolfe, Lead Author

(1) Frequently Asked Questions

Our elected officials are concerned about new debt. Can we issue bonds without incurring new debt or without risking increased taxes?

- *Consider the use of revenue bonds rather than general obligation bonds.*
- *Work with Development Finance Agency or other alternative issuers in your jurisdiction.*

(2) Frequently Asked Questions

What is a "green bond" and what is the value in using a "green bond" vs. bonds that are not labeled as green?

- *Labeled or independently certified*
- *Helps potential buyers find your issuance*
- Resource: *The Growing U.S. Green Municipal Bond Market: Labeled, QECBs, CREBs, and Unlabeled* (Bellis and Chen, 2017).
  - See online at: http://www.energyprograms.org/wp-content/uploads/2017/06/greenmunicipalbonds.pdf.

(3) Frequently Asked Questions

We plan on using Energy Savings Performance Contracting (ESPC) to upgrade our public facilities. What are the advantages of coupling an ESPC with a bond issuance?

- *Contractor performance guarantees provide additional risk mitigation*
- *Consider the history, track record and balance sheet of the guarantor*

(4) Frequently Asked Questions

As a result of the current economic conditions, revenue is expected to be significantly reduced this year and likely next. How can we strategically use bonds to support energy efficiency improvements in the current environment?

- *Lowering energy costs is even more important when revenues are lower*
- *If issuing bonds for other purposes, consider upsizing the issuance to finance cost-effective efficiency improvements to save on standalone transaction costs*

(5) Frequently Asked Questions

What successful messaging strategies have you seen work for persuading public officials to use bond financing to support energy projects?

- *Demonstrate the value and cost-effectiveness of the project and the costs avoided by not deferring or delaying*
- *Lay out alternatives and pros and cons of each*
- *Use this resource to help educate relevant stakeholders*

Questions?

Please type questions into the webinar dialogue box.

Resources for Bond Financing

State and Local Solution Center: Bonding Tools

Available online at: https://www.energy.gov/eere/slsc/bonding-tools

- **Case Studies**
  - Douglas County School District (NV) Bonds Case Study
  - Oxford Area Community School District (MI) Bonds Case Study

- **Reports**
  - The Growing U.S. Green Municipal Bond Market: Labeled, QECBs, CREBs, and Unlabeled (Energy Programs Consortium)

- **Tools**
  - Leveraging bond financing to support Energy Savings Performance Contracts via the ESPC Financing Decision Tree

- **Updates**
  - Update on QECBs and CREBs (Eliminated effective Jan. 1, 2018)

Stay Connected

State and Local Solution Center:

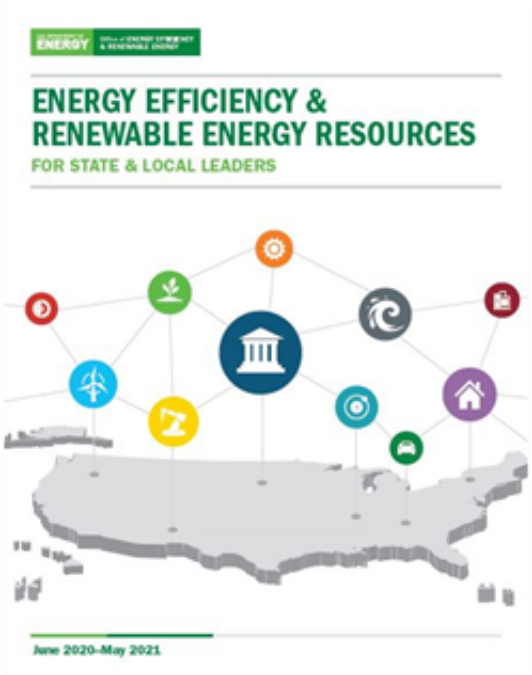
http://energy.gov/eere/slsc

- More than **400** tools, resources, and best practices

State and Local Spotlight:

http://energy.gov/slsc/subscribe

- Monthly newsletter with **~33,000** subscribers



https://www.energy.gov/eere/slsc/downloads/energy-efficiency-and-renewable-energy-resources-state-and-local-leaders-june

Thank You

Sean Williamson
U.S. Department of Energy
Partnerships and Technical Assistance
T: 202-287-6673
Sean.Williamson@ee.doe.gov

Elizabeth Bellis Wolfe
elizabeth.bellis@gmail.com

State and Local Solution Center
http://energy.gov/eere/slsc/state-and-local-solution-center